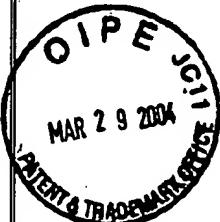
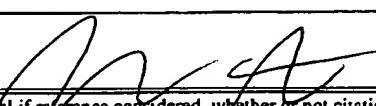


EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

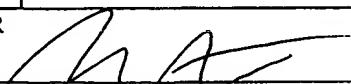
INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 006217 USA/Consilium/Consilium	SERIAL NO. 09/927,444			
		APPLICANT Nicholas A. WARD et al.				
		FILING DATE August 13, 2001		GROUP 2125		
		U.S. PATENT DOCUMENTS				
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
GR	4,901,218	02/13/90	Cornwell			03/04/88
~	5,427,878	06/27/95	Corliss			05/16/94
~	5,761,065	06/02/98	Kittler et al.			03/30/95
~	5,912,678	06/15/99	Saxena et al.			04/14/97
~	5,926,690	07/20/99	Toprac et al.			05/28/97
~	6,111,634	08/29/00	Pecen et al.			05/28/97
~	6,150,664	11/21/00	Su	APR 01 2004		06/29/99
~	6,245,581 B1	06/12/01	Bonser et al.	Technology Center 2100		04/19/00
~	6,346,426 B1	02/12/02	Toprac et al.			11/17/00
~	6,363,294 B1	03/26/02	Coronel et al.			12/29/98
~	6,442,496 B1	08/27/02	Pasadyn et al.			08/08/00
~	6,486,492 B1	11/26/02	Su			11/20/00
~	6,540,591 B1	04/01/03	Pasadyn et al.			04/18/01
~	6,625,497 B2	09/23/03	Fairbairn et al.			07/10/01
~	6,640,151 B1	10/28/03	Somekh et al.			12/22/99
EXAMINER	DATE CONSIDERED					

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 006217 USA/Consilium/Consilium	SERIAL NO. 09/927,444				
		APPLICANT Nicholas A. WARD et al.					
		FILING DATE August 13, 2001	GROUP 2125				
FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
~	0 397 924 A1	11/22/90	Europe			X	
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
~	Rocha, Joao and Carlos Ramos. September 12, 1994. "Task Planning for Flexible and Agile Manufacturing Systems." <i>Intelligent Robots and Systems '94. Advanced Robotic Systems and the Real World, IROS '94. Proceedings of the IEEE/RSJ/GI International Conference on Munich, Germany 12-16 Sept. 1994.</i> New York, New York: IEEE. pp. 105-112.						
~	March 15, 2002. Office Action for U.S. Serial No. 09/469,227, filed December 22, 1999.						
~	March 29, 2002. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.						
~	June 20, 2002. Office Action for U.S. Serial No. 09/619,044, filed July 19, 2000.						
~	September 26, 2002. Office Action for U.S. Serial No. 09/637,620, filed August 11, 2000.						
~	October 23, 2002. Office Action for U.S. Serial No. 09/469,227, filed December 22, 1999.						
~	December 17, 2002. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.						
~	February 10, 2003. Office Action for U.S. Serial No. 09/619,044, filed July 19, 2000.						
~	April 9, 2003. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.						
~	May 8, 2003. Office Action for U.S. Serial No. 09/637,620, filed August 11, 2000. Technology Center 2100						
~	June 18, 2003. Office Action for U.S. Serial No. 09/655,542, filed September 6, 2000.						
~	August 8, 2003. International Search Report for PCT/US03/08513.						
~	August 25, 2003. Office Action for U.S. Serial No. 10/100,184, filed March 19, 2002.						
~	September 15, 2003. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.						
~	November 5, 2003. Office Action for U.S. Serial No. 10/172,977, filed June 18, 2002.						
~	December 1, 2003. Office Action for U.S. Serial No. 10/173,108, filed June 18, 2002.						
~	December 11, 2003. Office Action for U.S. Serial No. 09/943,383, filed August 31, 2001.						
~	December 16, 2003. International Search Report for PCT/US03/23964.						
~	January 23, 2004. International Search Report for PCT/US02/24860.						
~	February 2, 2004. Office Action for U.S. Serial No. 09/363,966, filed July 29, 1999.						
EXAMINER 			DATE CONSIDERED 10/28/04				

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

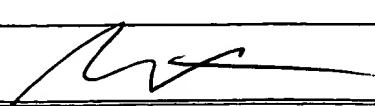
EXAMINER: Initials of reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium	SERIAL NO. 09/927,444
APPLICANT Nicholas A. WARD et al.			
FILING DATE August 13, 2001		GROUP 2125	
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
<i>SPS</i>	IslamRaja, M. M., C. Chang, J. P. McVittie, M. A. Cappelli, and K. C. Saraswat. May/June 1993. "Two Precursor Model for Low-Pressure Chemical Vapor Deposition of Silicon Dioxide from Tetraethylorthosilicate." <i>J. Vac. Sci. Technol. B</i> , Vol. 11, No. 3, pp. 720-726.		
<i>CPM</i>	Kim, Eui Jung and William N. Gill. July 1994. "Analytical Model for Chemical Vapor Deposition of SiO ₂ Films Using Tetraethoxysilane and Ozone" (Abstract). <i>Journal of Crystal Growth</i> , Vol. 140, Issues 3-4, pp. 315-326.		
<i>SAC</i>	Guo, R.S, A. Chen, C.L. Tseng, I.K. Fong, A. Yang, C.L. Lee, C.H. Wu, S. Lin, S.J. Huang, Y.C. Lee, S.G. Chang, and M.Y. Lee. June 16-17, 1998. "A Real-Time Equipment Monitoring and Fault Detection System." <i>Semiconductor Manufacturing Technology Workshop</i> , pp. 111-121.		
<i>GM</i>	Lantz, Mikkel. 1999. "Equipment and APC Integration at AMD with Workstream." <i>IEEE</i> , pp. 325-327.		
<i>GM</i>	July 15, 2004. Office Action for U.S. Serial No. 10/172,977, filed June 18, 2002.		
<i>CAI</i>	August 2, 2004. Office Action for U.S. Serial No. 10/174,377, filed June 18, 2002.		
<i>SN</i>	August 9, 2004. Written Opinion for PCT Serial No. PCT/US02/19063.		
<i>CPM</i>	August 18, 2004. International Preliminary Examination Report for PCT Serial No. PCT/US02/19116.		
<i>CR</i>	August 24, 2004. Office Action for U.S. Serial No. 10/135,405, filed May 1, 2002.		
<i>CR</i>	August 25, 2004. Office Action for U.S. Serial No. 09/998,384, filed November 30, 2001.		
<i>CR</i>	September 9, 2004. Written Opinion for PCT Serial No. PCT/US02/21942.		
<i>CR</i>	September 16, 2004. International Preliminary Examination Report for PCT Serial No. PCT/US02/24859.		
EXAMINER 		DATE CONSIDERED <i>10/28/04</i>	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



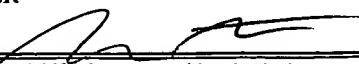
SHEET 1 OF 5

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium	SERIAL NO. 09/927,444	
				APPLICANT Nicholas A. WARD et al.		
				FILING DATE August 13, 2001	GROUP 2125	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
~	5,787,021	07/28/98	Samaha			12/18/95
~	5,831,851	11/03/98	Eastburn et al.			03/21/95
~	5,943,550	08/24/99	Fulford, Jr. et al.			03/29/96
~	6,226,563 B1	05/01/01	Lim			09/04/98
~	6,237,050 B1	05/22/01	Kim et al.			09/04/98
FOREIGN PATENT DOCUMENTS						
~	EP 1 083 470 A2	03/14/01	EP			X
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
~	July 25, 2003. International Search Report for PCT/US02/24858.					
EXAMINER				DATE CONSIDERED 01/28/04		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



SHEET 2 OF 5

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)			ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium	SERIAL NO. 09/927,444		
			APPLICANT Nicholas A. WARD et al.			
			FILING DATE August 13, 2001		GROUP 2125	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
~	4,957,605	09/18/90	Hurwitt et al.			04/17/89
~	5,240,552	08/31/93	Yu et al.			12/11/91
~	5,369,544	11/29/94	Mastrangelo			04/05/93
~	5,444,837	08/22/95	Bomans et al.			12/29/93
~	5,665,214	09/09/97	Iturralde			05/03/95
~	5,695,810	12/09/97	Dubin et al.			11/20/96
✓	5,824,599	10/20/98	Schacham-Diamond et al.			01/16/96
~	5,825,356	10/20/98	Habib et al.			03/18/96
~	5,838,951	11/17/98	Song			08/28/96
~	5,859,777	01/12/99	Yokoyama et al.			05/13/97
~	5,871,805	02/16/99	Lemelson			04/08/96
✓	6,012,048	01/04/00	Gustin et al.			05/30/97
✓	6,037,664	03/14/00	Zhao et al.			03/31/98
~	6,059,636	05/09/00	Inaba et al.			07/09/98
~	6,096,649	08/01/00	Jang			10/25/99
~	6,100,195	08/08/00	Chan et al.			12/28/98
~	6,114,238	09/05/00	Liao			05/20/98
~	6,150,270	11/21/00	Matsuda et al.			01/07/99
~	6,157,864	12/05/00	Schwenke et al.			05/08/98
~	6,181,013 B1	01/30/01	Liu et al.			03/13/00
~	6,212,961 B1	04/10/01	Dvir			02/11/99
~	6,228,280 B1	05/08/01	Li et al.			05/06/98
~	2001/0006873 A1	07/05/01	Moore			02/13/01
~	6,259,160 B1	07/10/01	Lopatin et al.			04/21/99
~	6,281,127 B1	08/28/01	Shue			04/15/99
EXAMINER 			DATE CONSIDERED 10/28/04			

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)				ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium	SERIAL NO. 09/927,444	
				APPLICANT Nicholas A. WARD et al.		
				FILING DATE August 13, 2001	GROUP 2125	
U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
~	6,317,643 B1	11/13/01	Dmochowski			03/31/99
~	6,339,727 B1	01/15/02	Ladd			12/21/98
~	6,355,559 B1	03/12/02	Havemann et al.			11/03/00
~	6,391,780 B1	05/21/02	Shih et al.			08/23/99
~	6,417,014 B1	07/09/02	Lam et al.			10/19/99
~	6,427,093 B1	07/30/02	Toprac			10/07/99
~	6,432,728 B1	08/13/02	Tai et al.			10/16/00
~	6,449,524 B1	09/10/02	Miller et al.			01/04/00
~	6,455,415 B1	09/24/02	Lopatin et al.			04/16/01
~	2002/0165636 A1	11/07/02	Hasan			04/24/02
~	6,484,064 B1	11/19/02	Campbell			10/05/99
~	6,495,452 B1	12/17/02	Shih			08/18/99
~	2002/0193899 A1	12/19/02	Shanmugasundram et al.			05/01/02
~	2003/0017256 A1	01/23/03	Shimane			06/12/02
~	6,515,368 B1	02/04/03	Lopatin et al.			12/07/01
~	6,517,414 B1	02/11/03	Tobin et al.			03/10/00
~	6,528,409 B1	03/04/03	Lopatin et al.			04/29/02
~	6,537,912 B1	03/25/03	Agarwal			08/25/00
~	6,580,958 B1	06/17/03	Takano			11/22/99
~	6,605,549 B2	08/12/03	Leu et al.			09/29/01
~	6,607,976 B2	08/19/03	Chen et al.			09/25/01
~	6,609,946 B1	08/26/03	Tran			07/14/00
~	6,616,513 B1	09/09/03	Osterheld			04/05/01
~	6,624,075 B1	09/23/03	Lopatin et al.			11/05/02
~	6,630,741 B1	10/07/03	Lopatin et al.			12/07/01
~	6,660,633 B1	12/09/03	Lopatin et al.			02/26/02
~	6,708,074 B1	03/16/04	Chi et al.			08/11/00
~	6,708,075 B2	03/16/04	Sonderman et al.			11/16/01
~	6,728,587 B2	04/27/04	Goldman et al.			12/27/00
EXAMINER			DATE CONSIDERED 10/28/01			

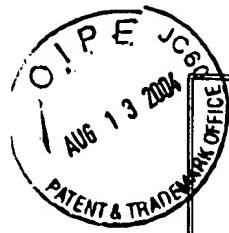
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



SHEET 4 OF 5

<p style="text-align: center;">INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)</p>			<p>ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium</p>		<p>SERIAL NO. 09/927,444</p>	
			<p>APPLICANT Nicholas A. WARD et al.</p>			
			<p>FILING DATE August 13, 2001</p>		<p>GROUP 2125</p>	
FOREIGN PATENT DOCUMENTS						
<p>EXAMINER'S INITIALS</p>	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	<p>Translation <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
	EP 0 932 195 A1	07/28/99	EP			
	GB 2 365 215 A	02/13/02	GB			
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
<i>✓</i>	<p>Sun, S.C. 1998. "CVD and PVD Transition Metal Nitrides as Diffusion Barriers for Cu Metallization." <i>IEEE</i>. pp. 243-246.</p>					
<i>✓</i>	<p>Tagami, M., A. Furuya, T. Onodera, and Y. Hayashi. 1999. "Layered Ta-nitrides (LTN) Barrier Film by Power Swing Sputtering (PSS) Technique for MOCVD-Cu Damascene Interconnects." <i>IEEE</i>. pp. 635-638.</p>					
<i>✓</i>	<p>Yamagishi, H., Z. Tokei, G.P. Beyer, R. Donaton, H. Bender, T. Nogami, and K. Maex. 2000. "TEM/SEM Investigation and Electrical Evaluation of a Bottomless I-PVD TA(N) Barrier in Dual Damascene" (Abstract). <i>Advanced Metallization Conference 2000</i>. San Diego, CA.</p>					
<i>✓</i>	<p>Eisenbraun, Eric, Oscar van der Straten, Yu Zhu, Katharine Dovidenco, and Alain Kaloyeros. 2001. "Atomic Layer Deposition (ALD) of Tantalum-Based Materials for Zero Thickness Copper Barrier Applications" (Abstract). <i>IEEE</i>. pp. 207-209.</p>					
<i>✓</i>	<p>Smith, S.R., K.E. Elers, T. Jacobs, V. Blaschke, and K. Pfeifer. 2001. "Physical and Electrical Characterization of ALD Tin Used as a Copper Diffusion Barrier in 0.25 mum, Dual Damascene Backend Structures" (Abstract). <i>Advanced Metallization Conference 2001</i>. Montreal, Quebec.</p>					
<i>✓</i>	<p>Kim, Y.T. and H. Sim. 2002. "Characteristics of Pulse Plasma Enhanced Atomic Layer Deposition of Tungsten Nitride Diffusion Barrier for Copper Interconnect" (Abstract). <i>IEIC Technical Report</i>. Vol. 102, No. 178, pp. 115-118.</p>					
<i>✓</i>	<p>Elers, Kai-Erik, Ville Saanila, Pekka J. Soininen, Wei-Min Li, Juhana T. Kostamo, Suvi Haukka, Jyrki Juhanoja, and Wim F.A. Besling. 2002. "Diffusion Barrier Deposition on a Copper Surface by Atomic Layer Deposition" (Abstract). <i>Advanced Materials</i>. Vol. 14, No. 13-14, pp. 149-153.</p>					
<i>✓</i>	<p>Peng, C.H., C.H. Hsieh, C.L. Huang, J.C. Lin, M.H. Tsai, M.W. Lin, C.L. Chang, Winston S. Shue, and M.S. Liang. 2002. "A 90nm Generation Copper Dual Damascene Technology with ALD TaN Barrier." <i>IEEE</i>. pp. 603-606.</p>					
<i>✓</i>	<p>Van der Straten, O., Y. Zhu, E. Eisenbraun, and A. Kaloyeros. 2002. "Thermal and Electrical Barrier Performance Testing of Ultrathin Atomic Layer Deposition Tantalum-Based Materials for Nanoscale Copper Metallization." <i>IEEE</i>. pp. 188-190.</p>					
<i>✓</i>	<p>Wu, Z.C., Y.C. Lu, C.C. Chiang, M.C. Chen, B.T. Chen, G.J. Wang, Y.T. Chen, J.L. Huang, S.M. Jang, and M.S. Liang. 2002. "Advanced Metal Barrier Free Cu Damascene Interconnects with PECVD Silicon Carbide Barriers for 90/65-nm BEOL Technology." <i>IEEE</i>. pp. 595-598.</p>					
<i>✓</i>	<p>March 30, 2004. Written Opinion for PCT/US02/19062.</p>					
<i>✓</i>	<p>April 9, 2004. Written Opinion for PCT/US02/19116.</p>					
<i>✓</i>	<p>April 22, 2004. Office Action for U.S. Serial No. 09/998,372, filed November 30, 2001.</p>					
EXAMINER <i>✓</i>	DATE CONSIDERED <i>Co/28/04</i>					

EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



SHEET 5 OF 5

INFORMATION DISCLOSURE CITATION IN AN APPLICATION (PTO-1449)		ATTY. DOCKET NO. 006217 USA/ Consilium/Consilium	SERIAL NO. 09/927,444
		APPLICANT Nicholas A. WARD et al.	
		FILING DATE August 13, 2001	GROUP 2125
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
<input checked="" type="checkbox"/>	April 28, 2004. Written Opinion for PCT/US02/19117.		
<input checked="" type="checkbox"/>	April 29, 2004. Written Opinion for PCT/US02/19061.		
<input checked="" type="checkbox"/>	May 5, 2004. Office Action for U.S. Serial No. 09/943,955, filed August 31, 2001.		
<input checked="" type="checkbox"/>	May 5, 2004. International Preliminary Examination Report for PCT/US01/27406.		
<input checked="" type="checkbox"/>	May 28, 2004. Office Action for U.S. Serial No. 09/943,383, filed August 31, 2001.		
<input checked="" type="checkbox"/>	June 3, 2004. Office Action for U.S. Serial No. 09/928,474, filed August 14, 2001.		
<input checked="" type="checkbox"/>	June 23, 2004. Office Action for U.S. Serial No. 10/686,589, filed October 17, 2003.		
<input checked="" type="checkbox"/>	June 30, 2004. Office Action for U.S. Serial No. 09/800,980, filed March 8, 2001.		
<input checked="" type="checkbox"/>	July 12, 2004. Office Action for U.S. Serial No. 10/173,108, filed June 8, 2002.		